

05-90
1011

OIRP

Serial Number:

09/757,049A

CRF Processing Date: 11/11/2001

Edited by: A

Initiated by: A

(STIC stat

ENTERED☐

Changed a file from non-ASCII to ASCII

☒

Changed the margins in cases where the sequence text was "wrapped" down to the next line.

☐

Edited a formal error in the Current Application Data section, specifically:

☐Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other _____☐

Added the mandatory heading and subheadings for "Current Application Data".

☐

Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐

Changed the spelling of a mandatory field (the heading's or subheadings), specifically:

☐

Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:

☐

Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

☐

Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

☐

Inserted colons after headings/subheadings. Headings edited included:

☐

Deleted extra, invalid, headings used by an applicant, specifically:

☐Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file;
☐ page numbers throughout text; ☐ other invalid text, such as _____☐

Inserted mandatory headings, specifically: _____

☐

Corrected an obvious error in the response, specifically: _____

☐

Edited identifiers where upper case is used but lower case is required, or vice versa.

☐

Corrected an error in the Number of Sequences field, specifically: _____

☐

A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

☐

Deleted ending stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____

☐

Other: _____

Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95

RAW SEQUENCE LISTING

DATE: 11/01/2001

PATENT APPLICATION: US/09/757,049A

TIME: 19:01:45

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\I757049A.raw

2 <110> APPLICANT: BERNSTEIN, Harold S.
3 COUGHLIN, Shaun R.
5 <120> TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR REGULATING CELL CYCLE
6 PROGRESSION
8 <130> FILE REFERENCE: UCSF-020/02US
C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/757,049A
11 <141> CURRENT FILING DATE: 2001-01-08
13 <150> PRIOR APPLICATION NUMBER: US 09/156,316
14 <151> PRIOR FILING DATE: 1998-09-18
16 <150> PRIOR APPLICATION NUMBER: US 60/060,688
17 <151> PRIOR FILING DATE: 1997-09-22
19 <160> NUMBER OF SEQ ID NOS: 50
21 <170> SOFTWARE: PatentIn Ver. 2.1
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 802
25 <212> TYPE: PRT
26 <213> ORGANISM: Homo sapiens
28 <400> SEQUENCE: 1
29 Met Pro Arg Ile Met Ile Lys Gly Gly Val Trp Arg Asn Thr Glu Asp
30 1 5 10 15
32 Glu Ile Leu Lys Ala Ala Val Met Lys Tyr Gly Lys Asn Gln Trp Ser
33 20 25 30
35 Arg Ile Ala Ser Leu Leu His Arg Lys Ser Ala Lys Gln Cys Lys Ala
36 35 40 45
38 Arg Trp Tyr Glu Trp Leu Asp Pro Ser Ile Lys Lys Thr Glu Trp Ser
39 50 55 60
41 Arg Glu Glu Glu Glu Lys Leu Leu His Leu Ala Lys Leu Met Pro Thr
42 65 70 75 80
44 Gln Trp Arg Thr Ile Ala Pro Ile Ile Gly Arg Thr Ala Ala Gln Cys
45 85 90 95
47 Leu Glu His Tyr Glu Phe Leu Leu Asp Lys Ala Ala Gln Arg Asp Asn
48 100 105 110
50 Glu Glu Glu Thr Thr Asp Asp Pro Arg Lys Leu Lys Pro Gly Glu Ile
51 115 120 125
53 Asp Pro Asn Pro Glu Thr Lys Pro Ala Arg Pro Asp Pro Ile Asp Met
54 130 135 140
56 Asp Glu Asp Glu Leu Glu Met Leu Ser Glu Ala Arg Ala Arg Leu Ala
57 145 150 155 160
59 Asn Thr Gln Gly Lys Lys Ala Lys Arg Lys Ala Arg Glu Lys Gln Leu
60 165 170 175
62 Glu Glu Ala Arg Arg Leu Ala Ala Leu Gln Lys Arg Arg Glu Leu Arg
63 180 185 190
65 Ala Ala Gly Ile Glu Ile Gln Lys Lys Arg Lys Arg Lys Arg Gly Val
66 195 200 205
68 Asp Tyr Asn Ala Glu Ile Pro Phe Glu Lys Lys Pro Ala Leu Gly Phe
69 210 215 220
71 Tyr Asp Thr Ser Glu Glu Asn Tyr Gln Ala Leu Asp Ala Asp Phe Arg

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Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\I757049A.raw

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72 225                230                235                240
74 Lys Leu Arg Gln Gln Asp Leu Asp Gly Glu Leu Arg Ser Glu Lys Glu
75                245                250                255
77 Gly Arg Asp Arg Lys Lys Asp Lys Gln His Leu Lys Arg Lys Lys Glu
78                260                265                270
80 Ser Asp Leu Pro Ser Ala Ile Leu Gln Thr Ser Gly Val Ser Glu Phe
81                275                280                285
83 Thr Lys Lys Arg Ser Lys Leu Val Leu Pro Ala Pro Gln Ile Ser Asp
84                290                295                300
86 Ala Glu Leu Gln Glu Val Val Lys Val Gly Gln Ala Ser Glu Ile Ala
87 305                310                315                320
89 Arg Gln Thr Ala Glu Ser Gly Ile Thr Asn Ser Ala Ser Ser Thr
90                325                330                335
92 Leu Leu Ser Glu Tyr Asn Val Thr Asn Asn Ser Val Ala Leu Arg Thr
93                340                345                350
95 Pro Arg Thr Pro Ala Ser Gln Asp Arg Ile Leu Gln Glu Ala Gln Asn
96                355                360                365
98 Leu Met Ala Leu Thr Asn Val Asp Thr Pro Leu Lys Gly Gly Leu Asn
99                370                375                380
101 Thr Pro Leu His Glu Ser Asp Phe Ser Gly Val Thr Pro Gln Arg Gln
102 385                390                395                400
104 Val Val Gln Thr Pro Asn Thr Val Leu Ser Thr Pro Phe Arg Thr Pro
105                405                410                415
107 Ser Asn Gly Ala Glu Gly Leu Thr Pro Arg Ser Gly Thr Thr Pro Lys
108                420                425                430
110 Pro Val Ile Asn Ser Thr Pro Gly Arg Thr Pro Leu Arg Asp Lys Leu
111                435                440                445
113 Asn Ile Asn Pro Glu Asp Gly Met Ala Asp Tyr Ser Asp Pro Ser Tyr
114                450                455                460
116 Val Lys Gln Met Glu Arg Glu Ser Arg Glu His Leu Arg Leu Gly Leu
117 465                470                475                480
119 Leu Gly Leu Pro Ala Pro Lys Asn Asp Phe Glu Ile Val Leu Pro Glu
120                485                490                495
122 Asn Ala Glu Lys Glu Leu Glu Glu Arg Glu Ile Asp Asp Thr Tyr Ile
123                500                505                510
125 Glu Asp Ala Ala Asp Val Asp Ala Arg Lys Gln Ala Ile Arg Asp Ala
126                515                520                525
128 Glu Arg Val Lys Glu Met Lys Arg Met His Lys Ala Val Gln Lys Asp
129                530                535                540
131 Leu Pro Arg Pro Ser Glu Val Asn Thr Glu Ile Leu Arg Pro Leu Asn
132 545                550                555                560
134 Val Glu Pro Pro Leu Thr Asp Leu Gln Lys Ser Glu Glu Leu Ile Lys
135                565                570                575
137 Lys Glu Met Ile Thr Met Leu His Tyr Asp Leu Leu His His Pro Tyr
138                580                585                590
140 Glu Pro Ser Gly Asn Lys Lys Gly Lys Thr Val Gly Phe Gly Thr Asn
141                595                600                605
143 Asn Ser Glu His Ile Thr Tyr Leu Glu His Asn Pro Tyr Glu Lys Phe
144                610                615                620

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```

146 Ser Lys Glu Glu Leu Lys Lys Ala Gln Asp Val Leu Val Gln Glu Met
147 625 630 635 640
149 Glu Val Val Lys Gln Gly Met Ser His Gly Glu Leu Ser Ser Glu Ala
150 645 650 655
152 Tyr Asn Gln Val Trp Glu Glu Cys Tyr Ser Gln Val Leu Tyr Leu Pro
153 660 665 670
155 Gly Gln Ser Arg Tyr Thr Arg Ala Asn Leu Ala Ser Lys Lys Asp Arg
156 675 680 685
158 Ile Glu Ser Leu Glu Lys Arg Leu Glu Ile Asn Arg Gly His Met Thr
159 690 695 700
161 Thr Glu Ala Lys Arg Ala Ala Lys Met Glu Lys Lys Met Lys Ile Leu
162 705 710 715 720
164 Leu Gly Gly Tyr Gln Ser Arg Ala Met Gly Leu Met Lys Gln Leu Asn
165 725 730 735
167 Asp Leu Trp Asp Gln Ile Glu Gln Ala His Leu Glu Leu Arg Thr Phe
168 740 745 750
170 Glu Glu Leu Lys Lys His Glu Asp Ser Ala Ile Pro Arg Arg Leu Glu
171 755 760 765
173 Cys Leu Lys Glu Asp Val Gln Arg Gln Gln Glu Arg Glu Lys Glu Leu
174 770 775 780
176 Gln His Arg Tyr Ala Asp Leu Leu Leu Glu Lys Glu Thr Leu Lys Ser
177 785 790 795 800
179 Lys Phe
183 <210> SEQ ID NO: 2
184 <211> LENGTH: 51
185 <212> TYPE: PRT
186 <213> ORGANISM: Homo sapiens
188 <400> SEQUENCE: 2
189 Ile Lys Gly Gly Val Trp Arg Asn Thr Glu Asp Glu Ile Leu Lys Ala
190 1 5 10 15
192 Ala Val Met Lys Tyr Gly Lys Asn Gln Trp Ser Arg Ile Ala Ser Leu
193 20 25 30
195 Leu His Arg Lys Ser Ala Lys Gln Cys Lys Ala Arg Trp Tyr Glu Trp
196 35 40 45
198 Leu Asp Pro
199 50
202 <210> SEQ ID NO: 3
203 <211> LENGTH: 51
204 <212> TYPE: PRT
205 <213> ORGANISM: Schizosaccharomyces pombe
207 <400> SEQUENCE: 3
208 Leu Lys Gly Gly Ala Trp Lys Asn Thr Glu Asp Glu Ile Leu Lys Ala
209 1 5 10 15
211 Ala Val Ser Lys Tyr Gly Lys Asn Gln Trp Ala Arg Ile Ser Ser Leu
212 20 25 30
214 Leu Val Arg Lys Thr Pro Lys Gln Cys Lys Ala Arg Trp Tyr Glu Trp
215 35 40 45
217 Ile Asp Pro
218 50

```

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TIME: 19:01:45

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\I757049A.raw

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221 <210> SEQ ID NO: 4
222 <211> LENGTH: 50
223 <212> TYPE: PRT
224 <213> ORGANISM: Homo sapiens
226 <400> SEQUENCE: 4
227 Val Lys Gly Pro Trp Thr Lys Glu Glu Asp Gln Lys Val Ile Glu Leu
228   1           5           10           15
230 Val Lys Lys Tyr Gly Thr Lys Gln Trp Thr Leu Ile Ala Lys His Leu
231           20           25           30
233 Lys Gly Arg Leu Gly Lys Gln Cys Arg Glu Arg Trp His Asn His Leu
234   35           40           45
236 Asn Pro
237   50
240 <210> SEQ ID NO: 5
241 <211> LENGTH: 50
242 <212> TYPE: PRT
243 <213> ORGANISM: Homo sapiens
245 <400> SEQUENCE: 5
246 Ile Lys Gly Pro Trp Thr Lys Glu Glu Asp Gln Lys Val Ile Glu Leu
247   1           5           10           15
249 Val Gln Lys Tyr Gly Pro Lys Arg Trp Ser Leu Ile Ala Lys His Leu
250           20           25           30
252 Lys Gly Arg Ile Gly Lys Gln Cys Arg Glu Arg Trp His Asn His Leu
253   35           40           45
255 Asn Pro
256   50
259 <210> SEQ ID NO: 6
260 <211> LENGTH: 50
261 <212> TYPE: PRT
262 <213> ORGANISM: Homo sapiens
264 <400> SEQUENCE: 6
265 Ile Lys Gly Pro Trp Thr Lys Glu Glu Asp Gln Lys Val Ile Glu Leu
266   1           5           10           15
268 Val Gln Lys Tyr Gly Pro Lys Arg Trp Ser Val Ile Ala Lys His Leu
269           20           25           30
271 Lys Gly Arg Ile Gly Lys Gln Cys Arg Glu Arg Trp His Asn His Leu
272   35           40           45
274 Asn Pro
275   50
278 <210> SEQ ID NO: 7
279 <211> LENGTH: 123
280 <212> TYPE: PRT
281 <213> ORGANISM: Homo sapiens
283 <400> SEQUENCE: 7
284 Pro Leu Lys Gly Gly Leu Asn Thr Pro Leu His Glu Ser Asp Phe Ser
285   1           5           10           15
287 Gly Val Thr Pro Gln Arg Gln Val Val Gln Thr Pro Asn Thr Val Leu
288           20           25           30
290 Ser Thr Pro Phe Arg Thr Pro Ser Asn Gly Ala Glu Gly Leu Thr Pro

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/757,049A

DATE: 11/01/2001

TIME: 19:01:45

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\I757049A.raw

```

291          35          40          45
293 Arg Ser Gly Thr Thr Pro Lys Pro Val Ile Asn Ser Thr Pro Gly Arg
294          50          55          60
296 Thr Pro Leu Arg Asp Lys Leu Asn Ile Asn Pro Glu Asp Gly Met Ala
297 65          70          75          80
299 Asp Tyr Ser Asp Pro Ser Tyr Val Lys Gln Met Glu Arg Glu Ser Arg
300          85          90          95
302 Glu His Leu Arg Leu Gly Leu Leu Gly Leu Pro Ala Pro Lys Asn Asp
303          100          105          110
305 Phe Glu Ile Val Leu Pro Glu Asn Ala Glu Lys
306          115          120
309 <210> SEQ ID NO: 8
310 <211> LENGTH: 107
311 <212> TYPE: PRT
312 <213> ORGANISM: Schizosaccharomyces pombe
314 <400> SEQUENCE: 8
315 Ser Val Thr Ile Glu Val Arg Asn Gln Leu Met Asn Arg Glu Gln Ser
316 1          5          10          15
318 Ser Leu Leu Gly Gln Glu Ser Ile Pro Leu Gln Pro Gly Gly Thr Gly
319          20          25          30
321 Tyr Thr Gly Val Thr Pro Ser His Ala Ala Asn Gly Ser Ala Leu Ala
322          35          40          45
324 Ala Pro Gln Ala Thr Pro Phe Arg Thr Pro Arg Asp Thr Phe Ser Ile
325          50          55          60
327 Asn Ala Ala Ala Glu Arg Ala Gly Arg Leu Ala Ser Glu Arg Glu Asn
328 65          70          75          80
330 Lys Ile Arg Leu Lys Ala Leu Arg Glu Leu Leu Ala Lys Leu Pro Lys
331          85          90          95
333 Pro Lys Asn Asp Tyr Glu Leu Met Glu Pro Arg
334          100          105
337 <210> SEQ ID NO: 9
338 <211> LENGTH: 119
339 <212> TYPE: PRT
340 <213> ORGANISM: Homo sapiens
342 <400> SEQUENCE: 9
343 Pro Val Lys Thr Leu Pro Phe Ser Pro Ser Gln Phe Leu Asn Phe Trp
344 1          5          10          15
346 Asn Lys Gln Asp Thr Leu Glu Leu Glu Ser Pro Ser Leu Thr Ser Thr
347          20          25          30
349 Pro Val Cys Ser Gln Lys Val Val Thr Thr Pro Leu His Arg Asp
350          35          40          45
352 Lys Thr Pro Leu His Gln Lys His Ala Ala Phe Val Thr Pro Asp Gln
353          50          55          60
355 Lys Tyr Ser Met Asp Asn Thr Pro His Thr Pro Thr Pro Phe Lys Asn
356 65          70          75          80
358 Ala Lys Tyr Gly Pro Leu Lys Pro Leu Pro Gln Thr Pro His Leu Glu
359          85          90          95
361 Glu Asp Leu Lys Glu Val Leu Arg Ser Glu Ala Gly Ile Glu Leu Ile
362          100          105          110

```

Use of n and/or Xaa has been detected in the Sequence Listing.
 Review the Sequence Listing to insure a corresponding
 explanation is presented in the <220> to <223> fields of
 each sequence using n or Xaa.

VERIFICATION SUMMARY

DATE: 11/01/2001

PATENT APPLICATION: US/09/757,049A

TIME: 19:01:46

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\I757049A.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number
L:514 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17
L:519 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17